Project Introduction

M4 Engineering proposes to develop a generalized reduced order model generation method. This method will allow for creation of reduced order aeroservoelastic state space models that can be interpolated across a range of flight conditions. This development will be a significant advance to the process of control law development, especially in the design of control systems required to provide flutter suppression, gust load alleviation, and ride quality enhancement. The proposed technique will be an excellent compliment to modern linear and nonlinear aeroservoelastic analysis methods.

Primary U.S. Work Locations and Key Partners

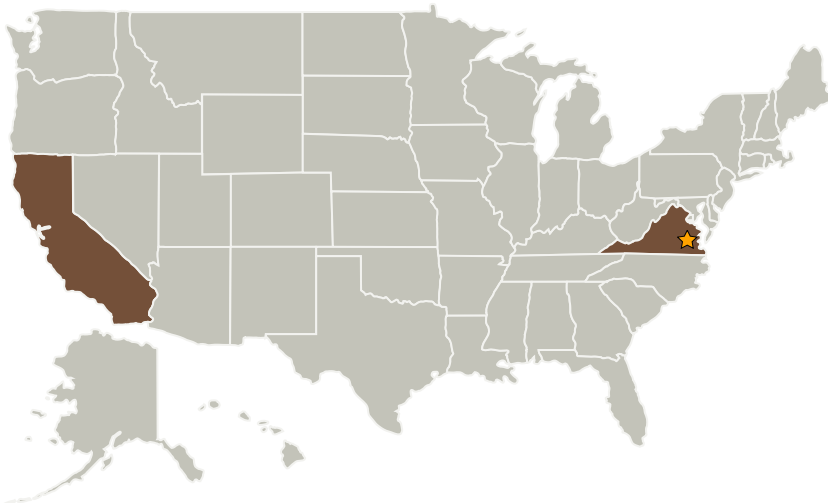| Organizations Performing Work	Role	Type	Location
⭐Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
M4 Engineering, Inc.	Supporting Organization	Industry Women-Owned Small Business (WOSB)	Long Beach, California

Generalized Reduced Order Model Generation, Phase I

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

For more information and an accessible alternative, please visit:
https://techport.nasa.gov/view/6662

Primary U.S. Work Locations	
California	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Kevin Roughen

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  └ TX12.3 Mechanical Systems
    └ TX12.3.3 Design and Analysis Tools and Methods